# PULP & PAPER 1968 Index

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# Abitibi takes bite out of bark problem

A bark fines removal and recovery system capable of reducing suspended solids in woodroom effluent by 97% has been installed at Abitibi Paper Co. Ltd.'s Fort William Division. The installation was discussed by T. M. Devine and E. H. Harvey in a paper presented at CPPA's fourth Air and Stream Improvement Conference.

The arrangement includes a Centribed system supplied by Canadian Ingersoll-Rand which consists of a Centriclone, two Centripress drainers, four Hydra-Clarifiers and a settling tank. Extensive use is made of recirculation of process water. Bark fines are concentrated, removed and recovered from the woodroom effluent by the Centribed system. A lagoon allows the removal of 85% of the suspended solids which escape from the Centribed system.

The Centribed system enables the closing up of the woodroom water requirements with the exception of two locations. Warm water showers are required on the inlet to the barking drums to aid in the barking of cold or frozen wood. Fresh water is also required on the Hymac drainer showers, as reused water plugs the nozzles. Both these locations lend themselves to the use of low consistency paper machine press section waste water. The replacement of the fresh water by paper mill waste will virtually eliminate the fresh water requirements in the woodroom, as well as cutting down on waste from the paper machine room.

Calculations have shown that the Centriclone, although not very efficient in itself, serves to concentrate the feed to the drainers. The increased drainer feed consistency results in an improved drainer efficiency. The Centriclone also provides the system with additional capacity by means of bypassing the flow limited drainers.

The figures given in the table were obtained from data collected while barking rail wood. The final effluent is somewhat cleaner when water wood is being barked due to the partially barked condition of the wood entering the drums.

Data obtained show that wide variations occur in operating conditions. The variations are due in part to the non-

uniform barking rate of wood in the drums. For this reason, results were averaged for one week of optimum operations. The efficiency of individual pieces of equipment was found to vary. The latter variation is thought to be due to a difference in classification of the fines entering the unit in question. No attempt was made to relate fines classification to efficiency.

Tests have shown that the efficiency of the lagoon ranges between 85% and 90%. The lagoon would be hampered somewhat in the winter by the formation of ice—this must be removed as it forms. The solids remaining in the outfall are almost colloidal. It would be difficult to remove much more of the suspended solids from the effluent without using chemical coagulants.

Bark is being removed from the woodroom effluent at an efficiency of 99%. Bark fines are being removed by the Centribed system at an efficiency of 78%. The lagoon removes bark fines from the final effluent at an efficiency of 85%. The system described for removing and recovering bark and bark fines from the woodroom effluent appears to be the answer, for this particular mill, to a difficult problem. Any further attempts to reduce the suspended solids significantly would probably require the use of chemical coagulants.

#### Overall woodroom bark recovery

|                              | Tons to<br>sewer<br>(16 Hours) | Tons re-<br>covered<br>(16 Hours) | % Re-<br>covered |
|------------------------------|--------------------------------|-----------------------------------|------------------|
| No recovery system           | 60                             | 0                                 | 0                |
| Bark plant installed         | 26.6                           | 33.4                              | 56               |
| Bark press effluent rerouted |                                |                                   |                  |
| to Hymac drainer             | 16.6                           | 43.4                              | 72               |
| Centribed system installed   | 3.7                            | 56.3                              | 94               |
| Lagoon in operation          | .5                             | 59.5                              | 99               |

